Public and Animal Health Consequences of Pet Ownership in Disasters

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Two Epidemiological Studies of Evacuations from Disasters

- Weyauwega, Wisconsin
  - Train derailment and chemical spill at 5:30 A.M.
  - All residents instructed to evacuate at 7:30 A.M.

- Yuba County, California
  - Voluntary evacuation order as a result of flooding
  - 24 hours later, due to a broken levee, a mandatory evacuation order was issued
Disaster Statistics

- On average, 19.4% of all households failed to evacuate.
- 20.9% of households with pets, and 16.3% of households without pets failed to evacuate.
Disaster Statistics

- The likelihood of household evacuation failure increased approximately 30% for every dog and cat owned

http://cacarc.files.wordpress.com/2009/01/dog-cat.jpg
Disaster Statistics

- The risk of household evacuation failure doubled for every dog or cat owned in households without children

http://www.confident-canines.com/images/child___puppy.jpg
Disaster Statistics

- In both evacuations, greater than 90% of pet-owning households stayed with friends or family
The most common reason given for failing to evacuate was the owners did not think they would be gone for long

- Poor understanding of:
  - the need for public and animal safety
  - why the evacuation was ordered
Disaster Statistics

- Cats were 2-4 times less likely to be evacuated than dogs
  - Why?
    - Greater difficulty in catching/restraining
    - Belief that cats can fend for themselves
    - Lack of cat carrier
In cat owning households that also owned dogs, the risk for cat evacuation failure was significantly decreased.
Disaster Statistics

- More than 80% of persons who returned to the evacuated areas in either disaster did so to rescue their pet.
Disaster Statistics

- Over 60% of households that attempted to rescue pets thought it was appropriate to risk human lives in the process.
Discussion

- Owning pets appeared to be the most significant reason why households without children failed to evacuate.
- For every additional dog or cat owned, these households were nearly twice as likely to evacuate compared to pet owning households with children.
Discussion

- If all pets could be evacuated from disasters, the evacuation rate of pet owning households could be increased by up to 20%
Discussion

A lower risk of evacuation failure was associated with the following indications of a higher level of pet care:

- Dogs that lived indoors
- Dogs that were licensed
- Cats that had carriers
- Cats that had visited a veterinarian
- Dogs and cats that required special food or medication
Discussion

- Attempts to rescue a pet was the most common reason why persons attempted to re-enter the evacuation areas.
Discussion

- Pet rescue attempts are best prevented by evacuating pets
Discussion

- Self-reliance appears to be increased by providing as much advance notice of the need to evacuate as possible
Discussion

- A major obstacle to evacuating pets appears to be the logistics related to pet transportation.
  - Aid with evacuation logistics may be the most effective strategy to prevent rescue attempts.
Mitigation of pet evacuation failure should focus on activities that encourage responsible pet ownership and strengthen the human-animal bond.
Animal Population Estimates

- On average, 60% of households in the US own a pet.
- The average number of pets in pet owning households is 1.5.
Animal Population Estimates

Example

- How many households in a community?
- Multiply by 0.6 (% households with a pet)
- Multiply by 1.5 (average # pets per household)
- Total is estimate of number of animals potentially impacted if this community were evacuated
Animal Population Estimates

Example

- Population = 25,000 (2.5 people/house)
- Households = 10,000
- Households with pets = 6,000
- Total # of pets = 9,000
Companion Animal Sheltering

- We should remove all obstacles to provide shelter for people in disasters, including shelter for their pets
Companion Animal Sheltering

- Animals can be brought in by:
  - Owners
  - Search and Rescue
  - Animal Control Officers (ACO)
  - Members of the community
Companion Animal Sheltering

- Shelter approval process
  - Board of Health
  - Local emergency planning committee
  - Facilities manager
  - Property owner
  - American Red Cross
  - School Board
  - Social Services
Companion Animal Sheltering

- Two types of shelters:
  - Companion Animal Evacuation Shelter
    - Evacuation generally lasting less than 5 days
  - Companion Animal Response Shelter
    - Evacuation generally lasting weeks to months
Companion Animal Sheltering

Companion Animal Evacuation Shelter

- Temporary shelter
  - May not be in close proximity to human shelter
  - Animals are cared for by members of a sheltering organization and volunteers until the animals can be returned to owners

- Co-location shelter
  - In the immediate vicinity of the human shelter
  - Requirement of owners’ involvement in their pets’ care
Companion Animal Sheltering

Companion Animal Response Shelter

- Where animals rescued from the affected area are taken to be housed until identified and retrieved by owners
- May include stray animals which can complicate identification of rescued owned animals that were left behind
Companion Animal Sheltering

- Temporary Shelter Advantages:
  - Majority of animals’ daily care is provided by trained animal handlers and shelter staff
  - Easier to control the environment as there is minimal involvement from members of the public
Companion Animal Sheltering

- Temporary Shelter Disadvantages:
  - Located away from the human shelter
  - Care by strangers in an unfamiliar environment adds to the animals’ stress
  - Difficult to obtain adequate numbers of volunteers
Companion Animal Sheltering

- Co-location Shelter Advantages:
  - Owners are more involved with pets’ daily care
  - This contact is healthier for both people and the animals, providing a small amount of normalcy and control of their environment
  - The shelter needs fewer volunteers
Companion Animal Sheltering

- Co-location Shelter Disadvantages:
  - If owners can not provide care, volunteers must take over that duty
  - Many pet owners are inexperienced in caring for their pet in an emergency shelter environment
    - Cage care
    - Leash walking
    - Increased incidence of escape or injury
AVMA Disaster Video

http://www.avmatv.org/media.cfm?c=200&m=1344&s=64&
Incident Command System

Shelter Leadership System

- Key positions include:
  - Shelter supervisor
  - Safety officer
  - Liaison
  - Public information officer
  - Logistics
  - Shelter manager
  - Team leads
Incident Command System

- Standardized on-scene all hazard incident management concept
- Integrated organizational structure that meets the demands of single or multiple incidents without being hindered by jurisdictional boundaries
- Allows emergency personnel to respond to an scene and understand where they fit in the chain of command and know their operational objectives
Incident Command System

Four benefits:

- Flexibility – meets the needs of any incident
- Common terminology
- Resource management
- Incident Action Plan (IAP)
  - Directs efforts in order to attain specific objectives
Incident Command System

- **Shelter supervisor**
  - Overall leader of the emergency shelter
  - Responsible for the operation of the facility from setup to demobilization
  - Appoints members of leadership team
  - Establishes procedures and ensures that they are followed
Incident Command System

- Safety Officer
  - Responsible for inspecting facility to identify potential hazards
  - Oversees the selection and use of proper Personal Protection Equipment (PPE) to ensure the safety of volunteers, staff, and public
Incident Command System

- Public Information Officer
  - Responsible for communicating with the public, media, and with other agencies regarding incident related information
  - Develops and releases information about the incident to the news media, incident personnel, and other appropriate agencies
Incident Command System

- Logistics
  - Supervises acquisition, storage, and distribution of supplies and equipment
  - Inventories facility space and present conditions
  - Oversees shelter cleanup and conducts a final check of supplies, equipment, and the area
Incident Command System

- **Shelter manager**
  - Responsible for the planning and daily operations of the shelter
  - Configures space in the facility
  - Assigns specific job duties
  - Establishes daily procedures
Incident Command System

- Team Leads
  - The number of team leads is based on the needs of the shelter
  - Number of positions reporting to the team leads is dictated by the span of control
    - The span of control is defined as the number of individuals or resources reporting to any one supervisor that can be effectively controlled
    - The recommended span is between three and seven people, with five being optimal
Components of Shelter Setup

No Single Perfect Setup!

- Arrange setup to allow for the most efficient movement of people, animals, and resources
Components of Shelter Setup

The Challenge:

- How many animals?
- What species?
- When are they arriving?

Be Flexible!!!

- 3 day rule - change the setup if it is not functional
- Less work and stress to modify the shelter than to continue to work in a poor arrangement
Shelter Setup

Facilities that may be adapted for emergency animal care:

- School
- Recreation center
- Public works garage
- Warehouse
- Fairgrounds
- Parking lot
Functional Flow of Shelter

Basic needs:

- Size: need approximately 3-4’ x 4’ of floor space/crate plus an access aisle 3-4’ wide
- Operational water, sewer, power
- Adequate lighting and ventilation
  - Preferably separate HVAC than human shelter
- Unobstructed entrances and exits, emergency exits
- Functional restrooms
- Secure perimeter
- Non-carpeted floors for animals
- Separation from human shelter adequate to control allergies, noise, and pathogens
Flow of shelter

Signage
- Direct members of public to key locations
- Consider bilingual
- Hours of operation
- Rules and regulations
- Daily information updates
Flow of shelter

Public Information Area
- Locate at front of shelter
- Separate from intake area
- Public notice board
  - Emergency numbers/websites
  - Pet friendly hotels
  - Lost pet and people notices
- Liaison station for the human shelter
Flow of shelter.

**Animal Intake/Registration**

- Initially may arrive in large numbers
- Later, varying rates of arrival and departure
- Brought in by:
  - Animal search and rescue
  - Animal control officers
  - Members of the community
Flow of shelter/Animal Intake

Area should include

- Seating area for public to rest
- Cages for small animals; leashes
- Offer snacks and bottled water
Flow of shelter/Animal Intake

Animal Intake Processors:

- **These people define the entire shelter!!**
- Discuss rules regarding care, visitation, and reasons for dismissal
- Release forms, shelter intake forms
- Proof of vaccination if possible
- Identification of pets and owners
- Place all paperwork including daily care sheet/bite record in plastic pouch that stays with animals
- **IMPORTANT**-control of personal information
Flow of shelter

Volunteer Intake

- Procedures are in place for shelter workers and volunteers to check in and out of shelter
- Credentialing
- Briefing
- Buddy system - new workers with experienced personnel
Flow of shelter

- Volunteer break area
- Donation and distribution area
- Food storage and preparation
- Veterinary triage
  - Treat wounds, monitor for developing diseases
  - Microchip
  - Vaccinate
- Decontamination
  - Hazardous materials/chemical spills
  - Flood crud
  - Fleas and ticks
  - PPE – hand, eye, and splash protection
Flow of shelter

- Waste disposal
  - Trash
  - Hazardous materials
  - Deceased animal disposal

- Exercise area
  - Fenced area or separate room inside facility
  - Clean-up supplies
  - Typically take one dog out at a time to avoid confrontation
Companion Animal Housing Setup

- Species specific sections
  - Exception - family groups?
- Arrange cages so animals can not come into contact with each other
  - Cardboard is used as divider
    - Visual barrier
    - Prevention of disease transmission
    - Environment dependent – in hot weather, space may be best barrier
Companion Animal Housing

- **Wire cages recommended**
  - Allows easier visual supervision

- **Isolation ward**
  - Animals with contagious illnesses
  - Biters - 10 day hold
  - Young, unvaccinated animals
  - Animals with skin lesions

- **Maternity ward**

- **Special needs**
  - Geriatric
  - Difficult to handle
Companion Animal Housing

- Each animal should have a permanent location to avoid misidentification and disease transmission or exposure.
Companion Animal Housing

Work Teams

- Designated by shelter manager
- Specific protocols to ensure consistency
- Keep workers with specific animals
  - Develop relationships to decrease stress
  - More quickly recognize medical issues
Companion Animal/Work Teams

- Team of 3 for dogs
  - Clean the cage
  - Exercise the dog
  - Obtain food and water

- Team of 2 for cats
  - Clean cage and litter pan
  - Obtain food and water

ROTATE JOBS!
Safety

- Rules of the shelter need to be posted and reviewed with each individual entering shelter

RULES
1. you can....
2. you can´t...
3. you can....
4. you can´t
Safety

- Rules are for the protection of people and animals

http://www.dogsafetyprogram.com/repository/Image/orange-hat-dog.jpg
Safety

- Any pet is capable of aggressive behavior when confronted with a frightening, threatening, or painful experience.
Safety

- Volunteers should only handle animals they are comfortable with and trained to handle.
Safety

- Difficult or aggressive animals should only be handled by experienced personnel

http://www.pawsinhand.co.uk/userimages/aggressivedog.jpg
Safety

- Any injury, regardless of how minor, must be reported to the safety and/or medical officer.
Hurricane Ivan
Deployed Pet Friendly Shelter the evening before each storm was due to impact Florida

Load Truck (pet food/kitty litter)
Staff and volunteers on scene
Truck and trailer arrives
Began unloading truck and trailer
Stocked storage room with supplies
Started constructing cages
Laid out 140’ plastic, taped up onto walls

8. Heavy duty rubber runner in the center
9. Lined one wall with large crates
10. Lined opposite wall with medium crates
11. Set up registration table/chairs
12. Lined garbage cans
13. Filled Kitty litter bins
14. Filled Dog Food barrel
The trailer unloaded and ready to assemble cages.
Lining the hallway with plastic
Rubber Runner
Setting up cages
PETS AND OWNERS IDENTIFIED
Owners caring for pets
Tear down and clean up
The shine was left on the floor... easy clean up
Animals left behind puts everyone at risk....
......left behind to watch the storm?
Pet Friendly Shelter

Marion County, Florida

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Lessons Learned

During the Federal response to Hurricane Katrina, four critical flaws in our national preparedness became evident due to a lack of:

- A process for unified management of national response
- Command and control structures within the Federal government
- Knowledge of our preparedness plans
- Regional planning and coordination
Lessons Learned

- Department of Homeland Security assessment stated:
  - “State and local evacuation plans should specify procedures to address the pre-positioning of food, medical, and fuel supplies. These plans should address establishing first-aid stations, tracking and coordinating movements of evacuees, evacuating pets, unaccompanied minors, the elderly, and evacuating people who lack the means to leave voluntarily.”
The Pets Evacuation and Transportation Standards Act of 2006

“The (FEMA) Director shall ensure that such (state and local) plans take into account the needs of individuals with household pets and service animals following a major disaster or emergency.”
Post-Katrina Emergency Management Reform Act of 2006

“Authorizes the provision of rescue, care, shelter, and essential needs to individuals with household pets and service animals and to such animals”

This expanded the federal role in emergency response by designating FEMA as the sole primary agency and it added additional authorities and responsibilities for FEMA to ensure pet rescue and shelter
National Response Framework (NRF)

- Establishes a comprehensive national all-hazard approach to emergency response
- Identifies key response principles, roles, and structures that organize national response
- Describes how communities, states, federal government, and the private sector apply principles for a coordinated and effective nationwide response
Department of Homeland Security
National Response Framework

- Emergency Support Functions (ESF) #11
  - Led by the USDA
  - Provides overall coordination for the safety and welfare of pets
Department of Homeland Security

- ESF # 6 - Mass care and human services
- ESF # 8 - Public health and medical
- ESF # 9 - Search and rescue
- ESF # 14 - Long term recovery

All have responsibilities to address specific issues related to pets
Lessons Learned

- These three documents – PETS Act, PKEMRA, and NRF – require state and local governments to develop, implement, and exercise emergency response plans and to be integrated with all federal evacuation activities.
State of Massachusetts Animal Response Team (SMART)

- A coordinated network of state organizations, agencies, and individuals
- Mission is to provide timely and effective response to animal populations in disaster situations

SMART
163 Lakeside Avenue, Marlborough, MA 01752-4554
Website: www.smart-mass.org
Email: smartmass1@gmail.com
SMART

- Operates under the direction of
  - Massachusetts Emergency Management Agency
  - Massachusetts Department of Agricultural Resources
Smart

- Overall Goals
  - Minimize health and safety threat to animals and humans
  - Minimize the economic impact of animal emergencies
  - Decrease the spread of disease to animals and humans during emergencies
  - Understand the interface between human and animal health
SMART’s responsibilities:

- Train volunteers on SMART operations
- Develop and maintain procedures for requesting smart assistance
- Develop and maintain procedures for SMART activation
- Evaluate procedures through training exercises
SMART

SMART functional teams:
- Shelter operations
- Veterinary services
- Search and rescue
- Assessment
- Specialized animal services
- Animal control officers
- Deceased animal removal and disposal
Shelter Operations

- What they do
  - Set up animal shelters
  - House and care for rescued/evacuated pets

- Skills needed
  - Animal care/handling skills
  - Shelter operation experience
  - Organization skills
Veterinary Services

- What they do
  - Provide acute medical care based on triage
  - Monitor for signs of infectious diseases

- Skills needed
  - Veterinarian
  - Veterinary technician
  - Pharmacy skills
  - Organizational skills
Search and Rescue

What they do

- Search for and rescue stranded/abandoned animals
- Document activities to facilitate reuniting animals with owners
- Safely transport animals to shelter

Skills needed

- Animal handling skills
- May require special training in rescue techniques in water, on ice
SMART

Assessment

- What they do
  - Assess damages and stability of the area to which they have been activated
  - Determine if other teams should be activated

- Skills needed
  - Familiarity with multiple types of disasters
  - Understand incident command system
  - Quick and thorough needs assessment
Specialized Animal Services

- What they do
  - Care and sheltering or non-traditional pets, livestock, research animals, wildlife, zoo animals
  - Provide acute medical care based on triage
  - Monitor health of rescued animals

- Skills needed
  - Veterinarians and veterinary technicians specializing in exotic, livestock, research, and wildlife animals
  - Specialized animal handling skills
Animal Control Officers

What they do
- Assist search and rescue
- Assist shelter operations
- Monitor available shelter space

Skills needed
- Massachusetts Animal Control Officer
- Animal handling skills
Deceased Animal Removal and Disposal

What they do
- Locate deceased animals
- Dispose of deceased animals following approved standard operating procedures
- Document information on all deceased animals

Skills needed
- Knowledge of disposal regulations
- Knowledge of solid waste handling
- Ability to handle heavy equipment; may need special driver’s licensing
Volunteer responsibilities

- **Training**
  - Incident Command System
  - First aid for animals, humans
  - Animal behavior
  - Animal handling
  - Hazardous materials, personal preparedness equipment
SMART Volunteers

- Participate in Exercises
  - Table top
  - Full scale mock drill
- Understand SMART activation procedures
- Participate in activations as available
  - Follow protocols and standards
  - Work responsibly and collaboratively

NO SELF DEPLOYMENT!!
SMART Volunteers

Sources of volunteers
- First responder community
- Animal control
- Veterinary associations
- Veterinary technicians and assistants
- Disaster Animal Response Teams (DARTs)
- Animal welfare organizations
- Equine and agriculture organizations - 4H
- Dog and cat clubs members
- Boy / Girl Scouts
- General public
Questions???
Pet Identification Pack

- Proof of ownership
  - Adoption or registration papers
  - Dog license
  - Microchip or tattoo numbers
- Recent photo of pet and owner
- Current medical records
  - Vaccine history
  - Rabies certificate
  - Medical issues, test results
- Current prescriptions
- Alternate contact information
- Special care instructions
Go Kit

- Cage/carrier/crate sized for pet, food and water bowls, litter pan
- Collar or harness
- Leash
- ID and Rabies tag
- 3 day supply of food, water, and medications
  - 10 # dog needs 1 pint water/day
  - 20# dog needs 1 quart water/day
  - 50# dog needs $\frac{1}{2}$ gallon water/day
Go Kit

- 3 bowls, utensils and can opener
- Bedding and litter material
- Dog waste pick-up bags
- Blankets, toys
- Flashlight and batteries, glow-sticks
First Aid Kit

- Anti-diarrhea medications
- Antibiotic ointment
- Bandage scissors
- Bandage tape
- Gauze pads and rolls
- Saline eye wash
- Alcohol
- Gloves
- Oral syringes/eye-dropper
- Thermometer
- Tweezers